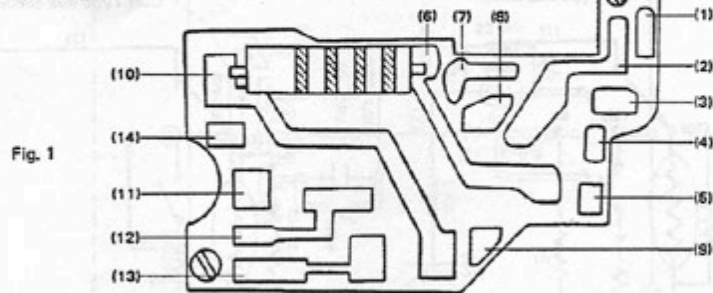
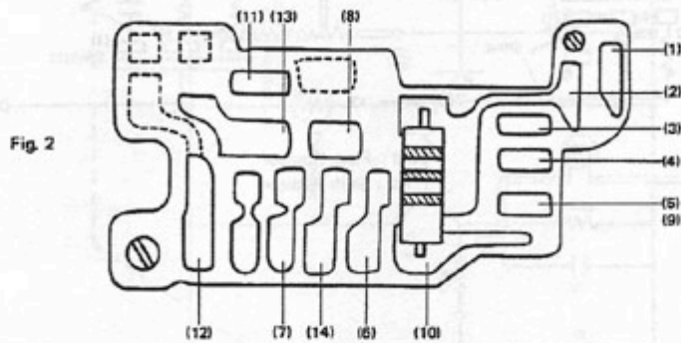


## UNIT CHECKING POINTS

Unit Type 368 Circuit Diagram

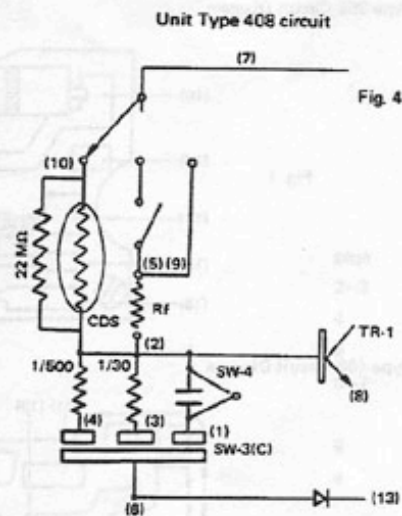
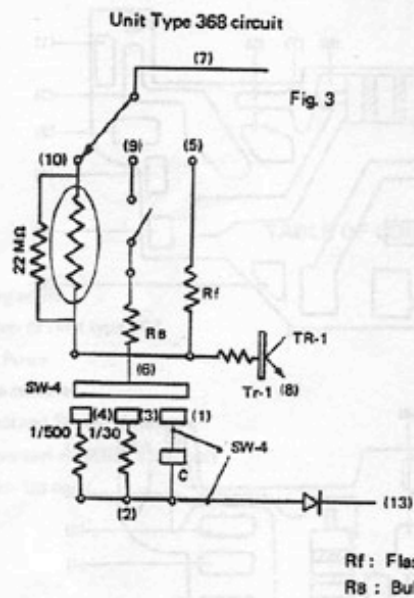


Unit Type 408 Circuit Diagram



Different checking point positions of Unit types 368 and 408

|                      | Unit Type 368 | Unit Type 408 |
|----------------------|---------------|---------------|
| Capacitor            | (1)-(2)       | (1)-(2)       |
| Red lamp Resistor    | (2)-(3)       | (2)-(3)       |
| Yellow lamp Resistor | (2)-(4)       | (2)-(4)       |
| Flash Resistor (RF)  | (6)-(5)       | (2)-(5)       |
| CdS                  | (6)-(10)      | (2)-(10)      |
| R7                   | (7)-(14)      | (7)-(14)      |

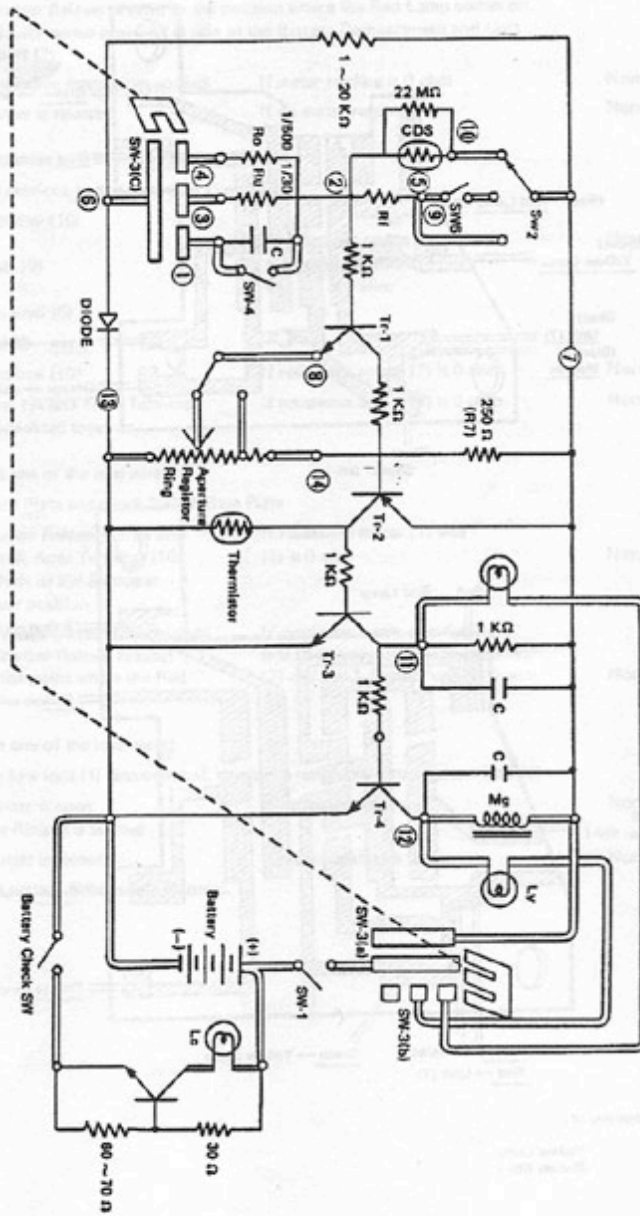


Flash Resistor and Bulb Resistor have been used in common in Unit Type 408. In Unit Type 368 the Bulb Resistor is (1 K ohm)

Unit Type 408. The capacitor (C) connections have been reversed (See Figs. 3 & 4) because the position of SW-3 has been changed. (Unless the capacitor is connected correctly, shutter will remain open).

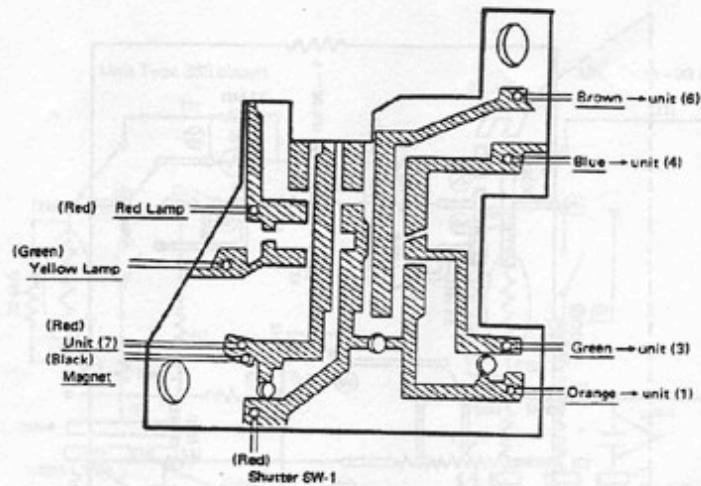
# WIRING DIAGRAM OF UNIT TYPE 408

Fig. 5

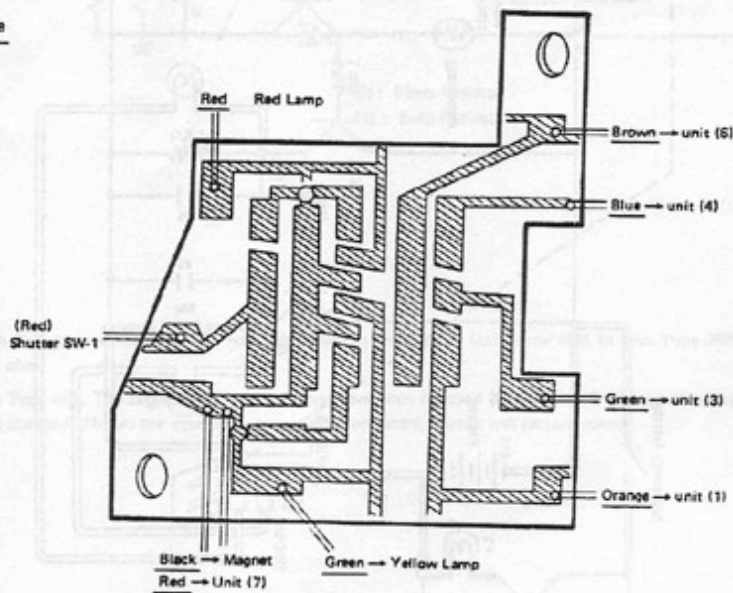


# SWITCH BASE PLATES

Old Type  
Fig. 6



New Type  
Fig. 7



Note: Soldering Positions of:

- |                 |              |
|-----------------|--------------|
| 1. <u>Green</u> | Yellow Lamp  |
| 2. <u>Red</u>   | Shutter SW-1 |

# **CHECKING THE SWITCHES** (use Ohm/Volt Test Meter)

|      |  |  |        |
|------|--|--|--------|
| SW-1 | (disconnect one of the lead wires)   |  |        |
|      | With the Shutter Release pressed to the position where the Red Lamp comes on, check continuity across positive (+) side of the Battery Compartment and Unit checking point (7) |  |        |
|      | * With the winding mechanism cocked  | If meter reading is 0 ohm  | Normal |
|      | * When shutter is released   | If no meter reading  | Normal |
| SW-2 | (disconnect white wire at Auto Terminal (10))  |  |        |
|      | Unit Types previous to and including Type 368  |  |        |
|      | * Auto Terminal (10)   | If resistance across respective terminals and (7) is 0 ohm   | Normal |
|      | * B Terminal (9)   |  |        |
|      | * Flash Terminal (5)   |  |        |
|      | Unit Type 408  |  |        |
|      | * Auto Terminal (10)   | If resistance across (7) is 0 ohm  | Normal |
|      | * B Terminal (9) and Flash Terminal (5) are connected together   | If resistance across (7) is 0 ohm  | Normal |
| SW-3 | (disconnect one of the lead wires)   |  |        |
|      | Detach Front Plate and check Switch Base Plate   |  |        |
|      | * When Shutter Release comes into contact with Auto Terminal (10) and the shaft of SW-3 stopper is in cocked position  | If resistance across (1) and (6) is 0 ohm  | Normal |
|      | * With the winding mechanism cocked and the Shutter Release pressed down to the point where the Red Lamp turns on  | If resistance across positive (+) side of Battery Compartment and (7) and SW-1, respectively, is 0 ohm | Normal |
| SW-4 | (disconnect one of the lead wires)   |  |        |
|      | With the yellow lead (1) disconnected, check the resistance across yellow lead (2)   |  |        |
|      | * When shutter is open (Aperture Ring at B setting)  | If no meter reading  | Normal |
|      | * When shutter is closed   | If meter reading is 0 ohm  | Normal |
|      | (Check and tighten SW-4 screw, if loose).  |  |        |



|                      |   |   |        |
|----------------------|---|---|--------|
| SW-2                 | (disconnect one of the lead wires)  |   |        |
| SW-5                 | At AUTO Position  |   |        |
|                      | * Disconnect (13) and Green Wire (8)  | If resistance across disconnected Green Wire (8) and (13) or (14) varies from 100 to 800 ohms when Aperture Ring is rotated | Normal |
|                      | At B and FLASH Positions  |   |        |
|                      | * Across (8) and (13)   | If meter reading is approx. 800 ohms  | Normal |
|                      | * Across (8) and (14)   | If meter reading is approx. 150 ohms  | Normal |
| SW-6                 | (disconnect one of the lead wires)  |   |        |
|                      | Set Exposure Ring to B Position   |   |        |
|                      | Unit Type 368   |   |        |
|                      | Check continuity across (7) and (6)   |   |        |
|                      | * When Shutter Release is pressed   | If no meter reading   | Normal |
|                      | * When Shutter Release is not pressed   | If meter reading is 1 K ohm   | Normal |
|                      | Unit Type 408   |   |        |
|                      | Check continuity across (7) and (2)   |   |        |
|                      | * When Shutter Release is pressed   | If no meter reading   | Normal |
|                      | * When Shutter Release is not pressed   | If resistance is equivalent to Flash Resistor (R1) value  | Normal |
| BATTERY CHECK SWITCH | Check continuity across (13) and the white wire of the Battery Check Base Plate |   |        |
|                      | * When Battery Check Switch is pressed (battery should be removed)              | If meter reading is 0 ohm   | Normal |
| SYNCHRO SWITCH       | Check continuity across Synchro Terminal and Camera Body                        |   |        |
|                      | * When shutter is open  | If meter reading is 0 ohm   | Normal |
|                      | * When shutter is closed  | If no meter reading   | Normal |

## CHECKING UNIT AND SHUTTER FAILURES

### SHUTTER OPERATES AT FASTEST SPEED ONLY

|   |   |   |
|---|---|---|
| At AUTO Position  | <ul style="list-style-type: none"> <li>— Check parts related to CdS</li> <li>— Check CdS for short circuit and SW-2 contact points</li> </ul>   |   |
| At B Position   | <ul style="list-style-type: none"> <li>— Check SW-6 and Resistor (Rb) at B Terminal (9)</li> </ul>  |   |
| At FLASH Position   | <ul style="list-style-type: none"> <li>— Check Flash Resistor (Rf) (Unit 408—one resistor serves as Bulb and Flash Resistor)</li> </ul>   |   |
| At AUTO and FLASH Positions   | <ul style="list-style-type: none"> <li>— Check SW-4 and Capacitor</li> </ul>  |   |
| At AUTO, B and FLASH Positions :  |   |   |
| When Shutter Release is pressed to the position where Red Lamp turns on   | <ul style="list-style-type: none"> <li>— If voltage across (7) and (13) is same as the battery voltage</li> <li>— If voltage is not the same as battery voltage, check SW-1 and SW-3</li> </ul>   | Normal  |
| Connect Ammeter between the white wire and the negative terminal of the Battery Compartment   |   |   |
| If current is normal (40—50 mA) at the position where the Red Lamp comes on and is low (below 20 mA) at the position where the Yellow Lamp comes on | <ul style="list-style-type: none"> <li>— Check the magnet of the shutter. With Green Wire (8) disconnected short (7) and (11)—if shutter operates at fastest speed (provided magnet, SW-2, SW-5 and Aperture Contact Switch are normal)</li> </ul>    | Unit is defective and should be replaced.   |
| If current is excessive   | <ul style="list-style-type: none"> <li>— Check Battery Check Switch and SW-3</li> </ul>   |   |
| Even if current is normal (40—50 mA) and (60—70 mA) as Red and Yellow Lamps light, respectively.  | <ul style="list-style-type: none"> <li>— Check SW-3, SW-4 and Capacitor</li> </ul>  |   |
| Red Lamp remains lit and shutter operates at fastest speed at AUTO, B and FLASH positions.  | <ul style="list-style-type: none"> <li>— Check for disconnected lead wires.</li> <li>— Unit 368—disconnect Lead Wire (7) and check Resistor R7 (150 or 250 ohms) on Unit</li> <li>— Unit 408—check the Resistor printed on Printed Circuit</li> </ul> | If R7 and Aperture Ring Contact Switch are normal, then Unit is defective and should be replaced. |

# SHUTTER REMAINS OPEN

|   |   |  |
|---|---|--|
| At AUTO Position  | - Check SW-2, SW-5 and CdS for open circuit   |  |
| At B Position   | - Check SW-6, SW-2, SW-5 at B Terminal (9) and Rb Resistor (Unit 408—one resistor serves as Rb and Rf Resistor) |  |
| At FLASH Position   | - Check Flash Resistor (Rf), SW-2, SW-5 at FLASH Terminal (5)   |  |
| At AUTO, B and FLASH Positions :  | - Check SW-2, SW-5, SW-4, Aperture Ring Contact and Capacitor   |  |
| With shutter open short (11) and (13)   | - If shutter does not close ...   | Tr. 4 of Unit is defective.<br>Replace Unit. |
| Unit 368—with shutter open short (5) and (7)                                      | - If shutter does not close ...   | Unit is defective.<br>Replace Unit.          |
| Unit 408—with shutter open short (2) and (7)                                      | - If shutter does not close ...   | Unit is defective.<br>Replace Unit.          |
| (Provided SW-2, SW-5 and Aperture Ring Contact are NORMAL)                        |   |  |
| Yellow Lamp remains lit and shutter remains open at AUTO, B and FLASH Positions : |   |  |
| Unit 368  | - Short (6) and (7)<br>If shutter does not close ...  | Unit is defective.<br>Replace Unit.          |
| Unit 408  | - Short (2) and (7)<br>If shutter does not close ...  | Unit is defective.<br>Replace Unit.          |
| (Provided SW-2, SW-5 and Aperture Ring Contact are NORMAL)                        |   |  |



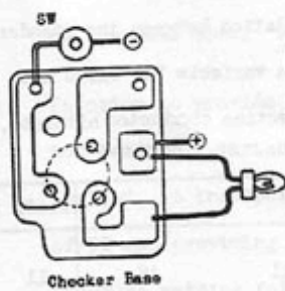


Fig. 1

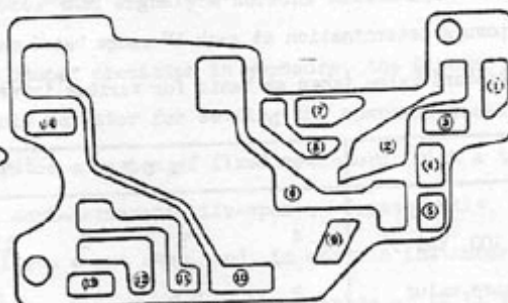


Fig. 2

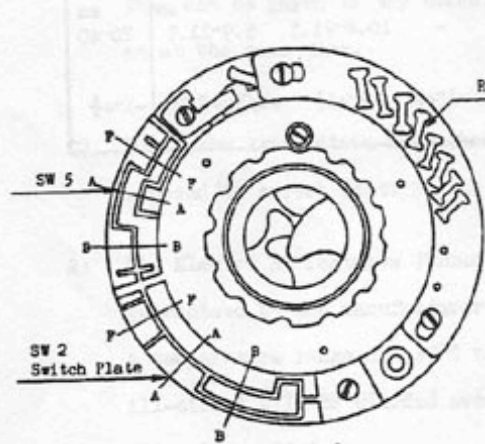


Fig. 3

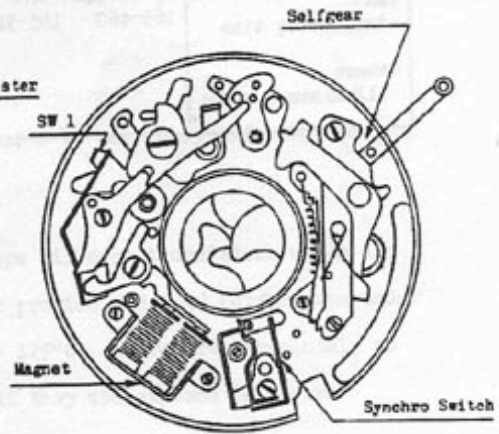


Fig. 6

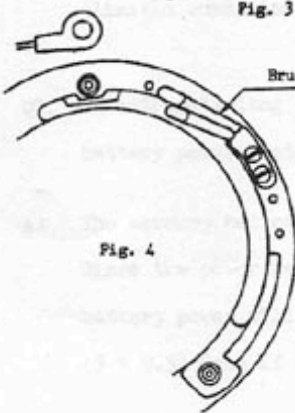


Fig. 4

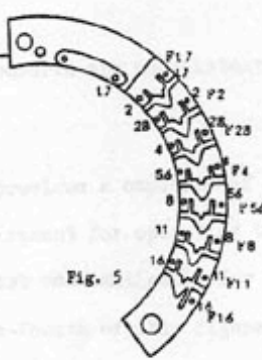


Fig. 5

